

INTERNATIONAL SEARCH REPORT

application No

PCT/GB2005/004850

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04B10/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 412 464 A (THOMAS ET AL) 2 May 1995 (1995-05-02) column 3, line 28 - column 3, line 30 column 3, line 62 - column 4, line 7; figure 2	1,40
Y	-----	2-36
Y	US 5 361 130 A (KERSEY ET AL) 1 November 1994 (1994-11-01) column 5, line 41 - column 5, line 55 column 7, line 4 - column 7, line 13; figures 2,3,5	36
Y	US 5 936 719 A (JOHNSON ET AL) 10 August 1999 (1999-08-10) column 3, line 50 - column 3, line 62; figure 2	2-35
	----- -/-	

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *&* document member of the same patent family

Date of the actual completion of the international search

21 February 2006

Date of mailing of the international search report

16. 05. 2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx 31 651 epo nl
Fax: (+31-70) 340-3016

Authorized officer

Phillips, S

INTERNATIONAL SEARCH REPORT

application No
PCT/GB2005/004850

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 187 362 A (KEEBLE ET AL) 16 February 1993 (1993-02-16) abstract; figure 1 -----	1-36,40
A	US 6 269 204 B1 (ISHIKAWA TOMOHISA) 31 July 2001 (2001-07-31) abstract; figure 2 -----	1-36,40
A	US 5 491 573 A (SHIPLEY ET AL) 13 February 1996 (1996-02-13) abstract; figure 2 -----	1-36,40

INTERNATIONAL SEARCH REPORT

Information on patent family members

application No

PCT/GB2005/004850

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5412464	A	02-05-1995	AU 640227 B2	19-08-1993
			AU 7675791 A	30-10-1991
			CA 2080117 A1	10-10-1991
			DE 69108232 D1	20-04-1995
			DE 69108232 T2	20-07-1995
			EP 0524252 A1	27-01-1993
			ES 2069885 T3	16-05-1995
			WO 9115744 A1	17-10-1991
			HK 139496 A	02-08-1996
			JP 3126379 B2	22-01-2001
			JP 5506099 T	02-09-1993

US 5361130	A	01-11-1994	NONE	

US 5936719	A	10-08-1999	NONE	

US 5187362	A	16-02-1993	AU 617913 B2	05-12-1991
			AU 4751090 A	26-06-1990
			CA 2004674 A1	06-06-1990
			DE 68910695 D1	16-12-1993
			DE 68910695 T2	05-05-1994
			DK 106891 A	04-06-1991
			EP 0447439 A1	25-09-1991
			ES 2046775 T3	01-02-1994
			WO 9006498 A2	14-06-1990
			HK 135596 A	02-08-1996
			JP 2856904 B2	10-02-1999
			JP 4502210 T	16-04-1992
			NZ 231638 A	25-02-1992

US 6269204	B1	31-07-2001	JP 3759845 B2	29-03-2006
			JP 2000183821 A	30-06-2000

US 5491573	A	13-02-1996	GB 2264018 A	11-08-1993

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2005/004850

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-36, 40

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims -36,40

OTDR measurement of branch lines in which a modulation is imposed on a signal in a designated branch line solving the problem of how to distinguish test signals returned from the designated branch line with respect to signals returned from other branch lines.

2. claims: 37-39

OTDR measurement of branch lines in which pairs of essentially identical test pulses are launched solving the problem of how to produce optical pulses having, on average, an amplitude which is constant for each pulse.
